SEQUENCE LISTING

<110> Ming-Hui WEI

```
<120> ISOLATED HUMAN KINASE PROTEINS, NUCLEIC
 ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
  THEREOF
<130> CL001305 DIV-II
<140> To be assigned
<141> 2003-10-09
<150> 10/277,032
<151> 2002-10-22
<150> 09/984,880
<151> 2001-10-31
<160> 4
<170> FastSEO for Windows Version 4.0
<210> 1
<211> 2571
<212> DNA
<213> Homo sapiens
cggggccgag ggcgqcqtcq ctqaqqcqcc catqqccttc qcccqccqqc tcctqcqcqq
                                                                        60
gecaetgteg gggeegetge tegggeggeg eggggtetge getggggeea tggeteegee
                                                                       120
gtgccgcttc gtcctggagc ttcccgactg caccctggct cacttcgccc taggcgccga
                                                                       180
cgccccggc gacgcagacg cccccgaccc ccgcctggcg gcgctgttgg ggcccccgga
                                                                       240
gcgcagctac tcgctgtgcg tgcccgtgac cccggacgcc ggctgcgggg cccgggtccg
                                                                       300
ggeggegegg etgeaceage geetgetgea ceagetgege egeggeeeet teeageggtg
                                                                       360
ceagetgete aggetgetet getactgece gggeggeeag geeggeggeg cacageaagg
                                                                       420
cttcctgctg cgcgacccc tggatgaccc tgacacccgg caagcgctgc tcgagctgct
                                                                       480
gggcgcctgc caggaggcac cacgcccgca cttgggcgag ttcgaggccg acccgcgcgg
                                                                       540
ccagctgtgg cagcgcctct gggaggtgca agacggcagg cggctgcagg tgggctgcgc
                                                                       600
acaggtcgtg cccgtcccgg agcccccgct gcacccggtg gtgccagact tgcccagttc
                                                                       660
cgtggtcttc ccggaccggg aagccgcccg ggccgttttg gaggagtgta cctcctttat
                                                                       720
tcctgaagcc cgggcagtgc ttgacctggt cgaccagtgc ccaaaacaga tccagaaagg
                                                                       780
aaagttccag gttgttgcca tcgaaggact ggatgccacg ggtaaaacca cggtgaccca
                                                                       840
gtcagtggca gattcactta aggctqtcct cttaaaqtca ccaccctctt gcattggcca
                                                                       900
gtggaggaag atctttgatg atgaaccaac tatcattaga agagcttttt actctttggg
                                                                       960
caattatatt gtggcctccg aaatagctaa agaatctgcc aaatctcctg tgattgtaga
                                                                      1020
caggitactgg cacagcacgg ccacctatgc catagccact gaggitgagitg ggggitctcca
                                                                      1080
gcacctgccc ccagcccatc accctgtgta ccagtggcca gaggacctgc tcaaacctga
                                                                      1140
cettatectg etgeteactg tgagtectga ggagaggttg cagaggetge agggeegggg
                                                                      1200
catggagaag accagggaag aagcagaact tgaggccaac agtgtgtttc gtcaaaaggt
                                                                      1260
agaaatgtee taccagegga tggagaatee tggetgeeat gtggttgatg eeageeeete
                                                                      1320
cagagaaaag gtcctgcaga cagtattaag cctaatccag aatagtttta gtgaaccgta
                                                                      1380
gttactctgg ccaggtgcca cgtctaacta gattagatgt tqtttgaaac atctacatcc
                                                                      1440
accatttgtt atgcagtgtt cccaaatttc tgttctacaa gcatgttgtg tggcagaaaa
                                                                      1500
ctggagacca ggcatcttaa ttttacttca gccatcgtac cctcttctga ctgatggacc
                                                                      1560
cgtcatcaca aaggtccctc tcatcatgtt ccagtgagag gccagcgatt gctttcttcc
                                                                      1620
tggcatagta aacattttct tggaacatat gtttcactta atcactacca aatatctgga
                                                                      1680
agacctgtct tactcagaca gcaccaggtg tacagaagca gcagacaaga tcttccagat
                                                                      1740
cagcagggag accccqqagc ctctqcttct cctacactqq catqctqatq aqatcqtgac
                                                                      1800
atgeceacat tggettette caeatetggt tgeactegte atgatggget egetgeatet
                                                                      1860
ccctcagtcc caaattctag tagccaagtg ttcctgcaga ggctgtctat gtgtcctggc
                                                                      1920
```

```
tgcccaaggg acactcctqc aqagccattt ttgggtaagg aacacttaca aagaaggcat
tgatettgtg tetgaggete agageeettt tgataggett etgatgteat teataaagae
attcaagcca agatgctcca actgcaaata taccaacctt ctctgaatta tattttgctt
atttatattt cttttctttt tttctaaaga attggctctg aatagaatgc acattttcca
tctgaactgg atgcatatca tttagccaat ccagtaattt atttatatta atctatacat
aatatgtttc ctcagcatag gagctatgat tcattaatta aaagtggagt caaaacgcta
aatgcaatqt ttqttqtqta ttttcattac acaaacttaa tttqtcttqt taaataaqtt
caagtggatc ttggagtggg atttcttggt aaattatctt gcacttgaat gtctcatgat
tacatatgaa atcgctttga catatcttta gacagaaaaa agtagctgag tgaggggaa
attatagage ttgtgtgaet ttagggagta getgtetett atacacatae teaageeetg
aagccttgca tgtcctgcag cgtcgcacta aaggaggggg cttttgcacc c
<210> 2
<211> 449
<212> PRT
<213> Homo sapiens
<400> 2
Met Ala Phe Ala Arg Arg Leu Leu Arg Gly Pro Leu Ser Gly Pro Leu
                                    10
Leu Gly Arg Arg Gly Val Cys Ala Gly Ala Met Ala Pro Pro Cys Arg
            20
                                25
Phe Val Leu Glu Leu Pro Asp Cys Thr Leu Ala His Phe Ala Leu Gly
                            40
                                                45
Ala Asp Ala Pro Gly Asp Ala Asp Ala Pro Asp Pro Arg Leu Ala Ala
Leu Leu Gly Pro Pro Glu Arg Ser Tyr Ser Leu Cys Val Pro Val Thr
Pro Asp Ala Gly Cys Gly Ala Arg Val Arg Ala Ala Arg Leu His Gln
                                    90
Arg Leu Leu His Gln Leu Arg Arg Gly Pro Phe Gln Arg Cys Gln Leu
            100
                               105
                                                    110
Leu Arg Leu Leu Cys Tyr Cys Pro Gly Gly Gln Ala Gly Gly Ala Gln
        115
                            120
                                                125
Gln Gly Phe Leu Leu Arg Asp Pro Leu Asp Asp Pro Asp Thr Arg Gln
    130
                        135
                                            140
Ala Leu Leu Glu Leu Leu Gly Ala Cys Gln Glu Ala Pro Arg Pro His
                    150
                                        155
Leu Gly Glu Phe Glu Ala Asp Pro Arg Gly Gln Leu Trp Gln Arg Leu
                                    170
                                                        175
Trp Glu Val Gln Asp Gly Arg Arg Leu Gln Val Gly Cys Ala Gln Val
                                185
            180
Val Pro Val Pro Glu Pro Pro Leu His Pro Val Val Pro Asp Leu Pro
                            200
Ser Ser Val Val Phe Pro Asp Arg Glu Ala Ala Arg Ala Val Leu Glu
                        215
                                            220
Glu Cys Thr Ser Phe Ile Pro Glu Ala Arg Ala Val Leu Asp Leu Val
                    230
                                        235
Asp Gln Cys Pro Lys Gln Ile Gln Lys Gly Lys Phe Gln Val Val Ala
                                    250
Ile Glu Gly Leu Asp Ala Thr Gly Lys Thr Thr Val Thr Gln Ser Val
            260
                                265
                                                    270
Ala Asp Ser Leu Lys Ala Val Leu Leu Lys Ser Pro Pro Ser Cys Ile
                            280
                                                285
Gly Gln Trp Arg Lys Ile Phe Asp Asp Glu Pro Thr Ile Ile Arg Arg
                        295
                                            300
Ala Phe Tyr Ser Leu Gly Asn Tyr Ile Val Ala Ser Glu Ile Ala Lys
                    310
                                        315
                                                            320
Glu Ser Ala Lys Ser Pro Val Ile Val Asp Arg Tyr Trp His Ser Thr
                325
                                    330
                                                        335
Ala Thr Tyr Ala Ile Ala Thr Glu Val Ser Gly Gly Leu Gln His Leu
                                345
```

1980 2040

2100

2160

2220

2280

2460 2520

2571

. . . .

Pro Pro Ala His His Pro Val Tyr Gln Trp Pro Glu Asp Leu Leu Lys

Pro Asp Leu Ile Leu Leu Thr Val Ser Pro Glu Glu Arg Leu Gln 375 380 Arg Leu Gln Gly Arg Gly Met Glu Lys Thr Arg Glu Glu Ala Glu Leu 385 390 395 Glu Ala Asn Ser Val Phe Arg Gln Lys Val Glu Met Ser Tyr Gln Arg 410 Met Glu Asn Pro Gly Cys His Val Val Asp Ala Ser Pro Ser Arq Glu 425 Lys Val Leu Gln Thr Val Leu Ser Leu Ile Gln Asn Ser Phe Ser Glu 435 445 Pro <210> 3 <211> 20966 <212> DNA <213> Homo sapiens <400> 3 aaaagttagg aaqaaqctqq tcttcctact taccctcaaq qtqctcaqtq qtqqqaaata 60 gactggcacg tgactgtgga gtgtcaaggt ccgaggatac aaatagcctt ggtgggggac 120 acaggagagg ctactaaccc agatatgtgg ggggttatag gctatatcat gtcccccaaa 180 attcatgttc aggcctagcc cccagtgcct cacagtatga ctgtatttca aaataagcct 240 ttcaataggt gattacatta aaatgagaac attatgatgg gccctaaccc aatctgactg 300 gtgtccttcc cagaagagga aatttggaac ttcaaggaga cgccaaggat gcaagcacaa 360 aggaaaggtc ccgtgaqaac acaqaqaqaa qqaqqcqqtc tqcacqctaq aaaqaqaqqc 420 ctcagaaaaa gcaaacctg ctggcaactt gatctccagc ttctctggcc acctgaactt 480 tgagaaaaca aattttctat tgtttaggcg gcccagtccg tggtattttg ttatggcagc 540 caggatagac taatacatcc agagaggtgg atggcatagg gaaaaggtca agcaggcttg 600 aggatgcagt actgtcttag agaagaaaag ggagtaacta gaagactctt acttccatat 660 actacataca cgtgaaacca ccggtacatg ctaaatgtcc aaaagtqaaa ttcctgagaa 720 agaataaaaa ctattctatt ctcaaaqaqc taaaaaattt taaactccta attcttcttt 780 cttcttagcc tattaaccca cactccaacc acctatctat atttcacqtt tgttaaqact 840 ttttttttca gaattaaata taatcccaag tttaagtcca atactattaa gacataaaaa 900 aaaaaactgc tttcagctca tctaatgttt tcaatcttcg tctcaattct atttttttga 960 gagagtttcc ctggagaata ttatcttttt gtttgttttt ggtttgcttg acatcatttt 1020 taaaaggcat cagttaatga gtaaacacag aataaaatat ccaaataact gcgcaaacac 1080 tgttacactg ttaggcagtt acactgttag gcagcaacag tgctgatgct ggactgtggc 1140 aggcagaggg tgctatcctg acacacttca ccttagtgca ggaaacttca atttggtgga 1200 agaaaggcga tttcgaggtt ccaatctggg cgacacttcc cagttggaga gtcagcaaaa 1260 gggagagggc aattccaaga agagggaaaa gcttgtgcac aggtgagtgt gtgcaaaggt 1320 gagtgtgtgc acaggtgagt gagtgcacag gtgagataag atacaggaga gggaagagcc 1380 agaactgcgc cctgttcccg caggaaagca gctctgcagg attagagggg cggggacgcg 1440 tggtcagagc taggagttga ggtcggggag ggagcccatg gtctgcaggg cctggtcagt 1500 catccaaggg cagtagtgcg cctgcaagtg ggcgttgaag agcccgttac accgggaagg 1560 gacttetetg teectegege gtgcacecee geeceeetee atgcaceegg cataageege 1620 agaggaggaa ctcaaaccag ggtcggggcc gccagccacc cgcagaacgc acacggagct 1680 accttggggc cgacggcgcg gggcctcatt cggtgtcagc cccgggagcc ggcgcctggg 1740 gaccgcgcag gcccgcggag ccgcgcacct ggggccccgg ggccaagcgt ctgctcccga 1800 gcgccggccg tttatcgcgc acatctcgcg gcgaggagga gaggccggaa gggcgcccca 1860 gccccaagge teetgeeceg cetgggeete eggetttegt tteecegeaa egettegett 1920 tegitteecg etggegeetg geteeeteeg ggittegitt eeegeeggeg eetggeteee 1980 gccaggtttc gtttccgagg cggggccgag ggcggcgtcg ctgaggcgcc catggccttc 2040 gcccgccggc tcctgcgcgg gccactgtcg gggccgctgc tcgggcggcg cggggtctgc 2100 gctggggcca tggctccgcc gcgccgcttc gtcctggagc ttcccgactg caccctggct 2160 caettegece taggegeega egeceeegge gaegeagaeg eeceegaeee eegeetggeg 2220 gcgctgctgg ggcccccgga gcgcagctac tcgctgtgcg tgcccgtgac cccggacgcc 2280 ggctgcgggg cccgggtccg ggcggcgcgg ctgcaccagc gcctgctgca ccagctgcgc 2340 cgcggcccct tccagcggtg ccagctgctc aggctgctct gctactgccc gggcggccag 2400 gccggcggcg cacagcaagg cttcctgctg cgcgaccccc tggatgaccc tgacacccgg 2460 caagegetge tegagetget gggegeetge caqqaggeac caegeeeqea ettqqqeqaq 2520

360

355

2580

ttegaggeeg accegeggg ceagetgtgg cagegeetet gggaggtgea agaeggeagg

eggetgeagg tgggetgege acaggtegtg eccgteeegg ageceeeget geaceeggtg 2640 gtgccagact tgcccagttc cgtggtcttc ccggaccggg aagccgcccg ggccgttttg 2700 2760 gaggaggtaa gagttetgte egetteeage teecagegtg geatetgaae cetteagaee agagaactgg accaagaggc tggtctgtaa agccggttct tgcctgggtg gtttgtttat 2820 ttccgttcac aaatcaggta gggaaggtgt cctgtatgcc aggcaactct tttaagattc 2880 ttgtttgcaa ggatcttcca acctgacgtg gaacatagac ctacaccaag ccacgcgatg 2940 cttgctgtaa aagcatccca acagcagtac agagggagta aaggggctgc cgggagtgag 3000 ggaaaataat gtcagctggg aagtaatttt atttgctgat gatcaccatt caaggatctt 3060 ggggtgaaaa agaaaatgca tgagtttagg gggtttaaga aatttagact taaatagtgt 3120 ttacctaccg actggccatg aaccttgtgc aggttactca actactctaa gttttgccct 3180 ttgacatgta caattcccat cttgcgatgt tgtcctgatt aaggaaacat ctgactcaca 3240 gcaggtaccc acagaaagag actgaaaatt ctttctgatc gcaggctagg cagatgtcct 3300 cctgtgacac agatgagccc tgaggatgcc cccatggatc ttgggaatat tttccaagct 3360 tacgggacag cgttgtggag cagttaagag tgcaaggtca accacgtgta tttaaattta 3420 aactctggca tttattagct gtgtcacttt gagcaagttt cttcaactct ctgcctcagt 3480 ttccttaatt catatggtgg gaataataat agcaccccc ccacccagt tcacagagat 3540 tggcaactga atacttgtaa agcacttaga agattgccat gctcagagca agcacataag 3600 tgtctgagcc tcgctctgag atgctgtgag cgtgcagtga gataatgcac attgaggaac 3660 tgggaattcc cagggggacg ctgctctgcc agcttcatga ttgcagtgct tggctgttta 3720 tctcagcccc ctgaatggct aggagaggac atgctgcaga tgaagactgc tctctccagc 3780 ccactgtgca gctgatttcc cattcttgtg acacagtgtt cccagcgggc ctgtagttcc 3840 atggttgcgg tgtcacagga cattgtgatg atgtgccttg cctggccttt ctcaaagctg 3900 ctcagtgaag gctgcaggcc accaagcgat ccagacaggg acagctgttt cgagccttgg 3960 ctgctcaata taaaataaaa tactccagtc catcctagca tcgaaatact ctgaattccc 4020 atggcctggc acagtgctca gtataactta ggccttatta gcatgcggca atattgtgct 4080 cagcaattta ggtgtgattt ctgcaaaagc cccctggctt cattgctgat ggatagacgt 4140 tgttttacag tgtacctcct ttattcctga agcccgggca gtgcttgacc tggtcgacca 4200 gtgcccaaaa cagatccaga aaggaaagtt ccaggttgtt gccatcgaag gactggatgc 4260 cacgggtaag ataatattac cttttagtta taggcaatga cactaactga ttagttgcag 4320 aaacagaaat acttcctgca aaaccaaact ttatatggag ccttatgtgt gcccctactg 4380 tgtggcaggc cctgtgctag gcaggccctg ggatgcagag atgaataaga ccttcaatat 4440 gaagcagcat gatgtgtggg cgcggatcct cagtgctctg gcggaacaca ggaagggcac 4500 tgaatctggc ctctgtgggg ctttgtcggg tggagtgcat ggtcaagggt gatacctgga 4560 ttgtatttta agtacagata ggagttggtc aggtgatgaa agcaggtaac atcctccaga 4620 cagaagaaat agcctgggca aaggtgcagg ggcttgaacc agggtggtgt gtccaggaac 4680 cacaggcaat tcagagattc ttctggagca aaatgtggaa gaactaggaa atggaagaaa 4740 aaaaagcctt ctgagctgtc aaactgaggt caaaatataa tgtgtgctca catgagacca 4800 aagtacaaaa ggggcagaca tgctgctcct gtggcccagg acacactgag gagagggttg 4860 atgttggaga actagcatcc gagtggttca gcgtaggagt ttctcctcct gtgtaaactt 4920 gaggggtaca gacttttaat aatataaaag gcaatttcca tatagaggta cttgtgaacc 4980 cagctaggga gatgtggcac aggtgatggc ccatgttgac catcctggct ccatgtgaag 5040 gagcgggcca tgtcctggcc ttcagggaga ccagctgtca tcactcaaat gtactggccg 5100 tgtccaggac ccatcacagt ttctttcagc tgcagaggga attgtaacac catcaatcct 5160 tcagctgatg tgttttgttg atcatttatt ttgtacccac agctaattta gatttggtgg 5220 gattacagga gacataaaaa ttcagcctca acacaagcat ccacacatac aaatgttaca 5280 aggagttagc atagagtggc agaaagaaca caggctagtg gttccgtctg ccctgcattt 5340 gcatcctgca ccaaggccta tcaggagggt gagtttgggt aaatttatta acttctccag 5400 tgctcaattt cttcttctgt cagatgatta aataataact gttttgcaga gtcactggga 5460 gaattaggag tataacgtgc tgagtacttg gctcctagca gacactgaga aatggtagct 5520 actgttaggg tccgtcctga caacctaaga aaaaaagaaa atagatagtt ggcaataaag 5580 tgttaagtgt gtgatagaga aacttaaaaa taaatcgaaa cagtaggagc tcagagaaac 5640 tagtgcacag tgtgctggag tagatcttct catcaccacc tgtcctgagc tccaggcagc 5700 agctgagaat tgtgagatgg gctctgggaa gggactaatc tgtcacccga ggctgtgcaa 5760 gggggagtca gaaagtcaat gaggcctaag cagtgccttt gaggagaaag ctgaagccta 5820 aagcagatac aaaagctcta aaggccaagg ccaagcccaa aggggcaagc acaggagtga 5880 gtggtagaac cagggctgga aattggaaag ggattgcaca gaagtggaag cagggtatga 5940 agaaggtaga aagagaggag gggcgagaag agttgctgtg gatgccaggt gtgggttcat 6000 caactataga caataagagg agagaaagtc ttctgggttg gggacatggt aagagggtga 6060 gcagtagctg ggctgccggg aataaaagtc acacgtaaaa gggqctcttg tqtctaqact 6120 cccaatatca gatttgatca ctaaccagaa tttttcctcc gggtttccta ataccacacg 6180 gagaaatcct aacttectat gggtetacag etttttataa agaateetgt tatttagtet 6240 actcatttca tttgcagttt gagagaacgt ctgtgctctt tctacgtcaa tgttaacttt 6300 ggggctgtgg ttaagatgta tatattttgt gtatgacctg caggtaaaac cacggtgacc 6360

cagtcagtgg cagattcact taaggctgtc ctcttaaagt caccaccctc ttgcattqqc 6420 cagtggagga agatctttga tgatgaacca actatcatta gaagagcttt ttactctttg 6480 6540 ggcaattata ttgtggcctc cgaaatagct aaagaatctg ccaaatctcc tgtgattgta gacaggtagg tataaagatg ccttgaatta ggcattttct ccctaatata taagtgtgtg 6600 tgtgtgtgtg tgtgtgtgt tgtatacgta catgtatatg ccaggaaaaa aattgtgttt 6660 aagtcaaact gttattatga taataatagg aattctcctt atgaattgtt aattacctat 6720 accaggcatg gcatttgcta gagaattaca tatataatac tagtatctgg aactataact 6780 tgggtaggtq aatqttacat gttattccca qtttactqat gagaactata gatctcaqaa 6840 aggtaaaata acttgccaag gtaagctgga aatagcatac cggggacatt aatgagtcta 6900 tactttcagt catttatttg ttcattggct tattcaacaa atacttactg gacacctcct 6960 gtgtgccaaa gactagtctc aatttagagg attcaatgat aaaccagtgt attagtccat 7020 tttcatgctg ctgataaaga catacccgag attcggcaat ttacaaaaga gagcagttta 7080 atggacttac agttccatgg ggctggggag gcctcacaat catggtggaa ggtacaaagc 7140 7200 atgtctcaca tggcggcaga caagagtaga gagcatgtgc agggaaactc ccctttttaa aatcatcaga ccttgtgaga cttattcaca atcatgagaa cagcatggta aagacctgtc 7260 cccatgatgc aattacctcc cactgggtcc ttcccacaac acatgggaat tcaagatgag 7320 7380 gtcctcacat ttcaaaacca atcatgcctt accaacagtc ccacaactct taactcattt 7440 cagcattaac tcaaaagtcc acagccaaag tctcatctga gacaaggtaa gtctcttcca 7500 cctatgagcc tgtaaaatca aaagcaagtt agttatttcc tagatacagt gaggctacag 7560 gcattgggta aatacagcca ttacaaatga gagaaattga ccaaaacaaa ggggctacag 7620 gctccatgca agtctgaaat tcagctgggc agtcaaatct taaagctcca aaattatctc 7680 7740 ctttgactct atttctcatg tccagatcat gctgatgcaa gaggtgggtc ctcatggtct tggacagete catecetgtg getttgeagg gtatageece ceteettget gettteacag 7800 gctggtgttg tctgcagctt ttccaggtgc atggtgcaag ctgtcagtgg atctaccatt 7860 ctggggtcta gtggacagtg gctctcttca aacagctccg ctaggtagtg ccccagtagg 7920 gactetgtgt tggggeteca accecacatt tecettecae actgecetag cagaggttet 7980 ccatgagagc cccactcctg tagcaaactt ctgcctggac atccaggcat ttccatacat 8040 cctctgaaat ctaggcggag gttcccaaac ctccattctt gacttctgtg tacctgtagg 8100 ctcaacacca catggaagct gccgaggctt ggggctttcc ccctctgaat caagagcctg 8160 agctgtacct tggcctctta ctcaaggcta gagtggctgg gacacagggc accaagtctc 8220 taggctgcac agagcagagg gaccctgggt ccacaaaacc attttttcc ttctaaacct 8280 ctgggtctgt gatgggaggg gcagcagcag aggtctctga catgccctcq agacattttc 8340 cccattgtct tggtgattaa catttggctt ctcattgctt atgcaaactt ctgcagccag 8400 cttgaatttc tcctcagaaa atgggatttt cttttctgtc acattgtcag gctgcaaatc 8460 ttccaaactt ttatgctctg tttccatttt aaaaccgaat acctttaaca gcatccaagt 8520 cacctcttga atgctttgct gcttagaaat ttcttccacc agttacccta aattattctc 8580 tcaagttcaa agttccacaa atctctaggg caagggctaa atgccgccag tctctttgct 8640 aaagcataac aagagttacc tttgctccag ttctcaccaa gttcctcatt tccatctgag 8700 accacctcag cctggatttc attgtccata tcattatcag cattttggtc aaagccattg 8760 aacaaatctc tagggagttc aacctttccc acattttcct gtcttcttct aagccctcca 8820 gactgcttca acctctgtct attacccagt tccaaagttg cttccacatt tttgggtatc 8880 ttttcagcag cacccactt ctggtaccaa tttactgtac tggttcattt tcacactgct 8940 gataaagacg tacacgagac tgggcaattt acaaaagaaa gaggtttaat ggatttacag 9000 ttccatgtcg ctgaggaggt ctcacagtca tggtggaagt tacggcacat ctcacatggc 9060 9120 agcagacaag agtagagagc ttgtgtaggg aaactcccct ttttaaaacc atcagatctt gtgagactta gtcactatca tgagaacagc atgggaaaga cctgcccctg tgattcaatt 9180 acctcccact gggtccctcc aacaacatgt gggaattcaa gatgagattt gagtgggatc 9240 acagccaaac catatcaatg agatagataa gtccctattt tcatggagca aacttaacat 9300 tataggagaa gaaaagtatc aggtgaacaa atacataaaa taatacataa gatgaggtaa 9360 gataatatca aagcatgata aatgcaggga agaggaaaaa tcaaagtaat gtgctaaaaa 9420 acggctaacc ctccactaga tatggtttag gaaggcctgt ctgagaaagc accattagtc 9480 agagccctga tttaaaaaaa aaaaaggcaa atgtgaaaat tcccgggtta acagaaagca 9540 ctgtggagaa agaaatctgc aagaatgaag ctaagactga aataagctaa catatctgac 9600 aactagaaaa tgttatatgt tctgagaaca tagtagatgt ggaggtgctt tgtggatgaa 9660 tgggaagagg aaggttgggg caggtctgta gggcttgtag gccattcata gaatggattt 9720 tattctgagt gcactgggga gccattggaa tgtttctgat aaaggagaga cataaactga 9780 tttatacttt aaaaattcac ctgtaagaaa tagcttcact ttgggaggct gaggtgggcg 9840 gatcatgagg tcaggagatc gagaccatcc tggctaacac ggtgaaaccc cgtctctact 9900 aaaaatacaa aaaattagcc gggcgaggtg gtgggcactt gtagtcccag ctactcggga 9960 ggctgaggca ggagaatggc atgaacccca gggggtggag cctgcagtga gccgagatca 10020 tgccactgca ctccagcctg ggcgacagcg agactccgtc tcaaaaaaaa aaaaaaaaga 10080 aaagaaaaga aatagcttta ggtcaggtgc agtggctcac acctgtaatc caagcacttt 10140 qqaaqqctqa ggtgggaaga gtgcttqagc ccaagagttc aaqaccaqcc ttqataacat 10200 agtgagacct tgtctctaca aaaaatattt aaaaaaatag ctgggtatqg tqqcacccac 10260 ttgtagtccc agctacttag gagactcagg aaggagaatc ccttaagccc aggaggtcga 10320 10380 10440 aaaaaatccc aaaaacaata aaacaaaaaa caaaaaagaa gaaaaaaata gctttaaaaa tactataaga aagaggaaag gatatgacaa gcaggtcata ctgaacttac atcacgatga 10500 caaatggatg agaagattat agtcaccatg agattccatt ttactcccat ctggatttca 10560 ttttactccc ctccagttgg tgaaactact ataactaaag gtttcttcat atgatatgga 10620 tcaatagaaa ctctcatatg atgctagtca gaacatatca tatgatagta gcataatcac 10680 ttagagagca gtttgaaaag atgtagcaaa gtggaagatt gctcctgcct actgaagaaa 10740 cactcacaaa agtttctttc agcttccttc atactgttgc aaaatttgaa aaacctaaag 10800 cccatcaaca ggagaaagca taaataaata ccagcatatg tataaggtgg aaaaccatac 10860 agcagcagtg taaatatgtt gtgcaatgca tgagggcaca cacattacaa aaccgtaatg 10920 ttgaatgaaa atgtcaagtt gccaaaagat gtttattcag tagaatacat gcagttatcc 10980 atactgcaaa gagtagagag atgaaaggat gttgaacagc agatttaaga aagttgttct 11040 ctgggaagta gagataaatg tggttgataa ggagatcaga aggactttga ttgtgattgg 11100 attatttctt aacatttctt gaatgttcat tttctccaaa gatttactta tttttgtaaa 11160 cataagcaat tgcatttaag tatggcatag ttggtaaaga acattaatca taaatgtaaa 11220 tctcaaggaa tttcaagaag tgaacacagt caagtcacct gtacccagat caagaatgag 11280 agcctgccac agcccctaca cccctgttct gccccaccc agtcactgcc catttcctcc 11340 ccaggggtag caactgtccc aactgccata gccatatatt agttctgcct gttcttaaac 11400 tgcctacaga tgcaactatt tgttaggtat ggagttttat ttgcacctga cttctttcat 11460 accacatgtg ttttgaagat ttgcctgtgt tgttgtgaac taaattttat gcatttttgg 11520 tgcacatatg gatgcagttc tgttacatag gttcccagga gcagaactgc aggggcatgg 11580 ggtttgtggc tgttcaggtt tggtagatgt tgcaaaaagt attctaaaga ggttgaaaga 11640 atgttgagtc tcctcccctc cccacagcag tatttgccaa ttccctgtga ctaacagccc 11700 tgttgacatt agtattacca ggctttaatt ttgactcctc tagtttttcc acttgttcct 11760 ggtgggtaag ctggtcactg aaaagctgat ttgtcctatc tggacacaga actactactc 11820 ctttcttgaa agtatatctt tttctgtaca cttttctgta tgtctgaaat attccatcaa 11880 gagaccaccc tgactgtatg tggagaataa agtgtgtggt gggggagggg caagaaagga 11940 aaaagaatca gctagaaggc tgtggctgca gtctaggctg tgatggccct tgagtagttt 12000 taatcctggg atgacaatag ggatggcaat ggggataaca ataataattt caaggttggc 12060 aagttacatg gaatcttagg atgaactgag aaggatacga aatcttgttc ctttatggga 12120 aggetttgcc tggaaaatgt ttttgcccta ttgttaacat gcccgatgtt atcatatqtq 12180 atatctgtat tagttettte teacaetget ataaagaegt aeetgataet gggtaateta 12240 taaagaaaag aggtttagtt gactgacaat tctgcatggc tatacgggag gcatggctgg 12300 ggaggcctca ggaaacttgc aatcatggtg gaaattgaag aggaaacaat ggcaacagga 12360 gagagagaga gagaggcagg ggcaggggca ggggcagagg cgagagagca gggggaagtg 12420 ctacacattt taaacaccca gatctcatga caactcacca tcacgagaac agcaagggg 12480 gtgtctgccc ccatgatcca atcaactccc acagggcctc atctccaaca atgggaatta 12540 ttaggttggt gcaaaagtca ttgtggtttt tgatattatt attaatggca aaaaccgcaa 12600 tgacttttgc accaacctaa taccctttgg catgagattt tggtggggac aaagaaccaa 12660 accatattga catcttttt gatacagtcc cctttatttc caagagaaag actaaggttt 12720 tcctagtagg gtatgacttt cgaggtccat tatgtcctag gatgcctgcg gatcctgaag 12780 cagcactggc cactgtgtgc aggcagggat ttctgcactc tgtcccccag ttttctqatc 12840 tgttaagtgg ggatactcat gcccccttcc ctgcctactg tcaagagttg tgatgatgat 12900 tcagtgagtg gatgtgtgtg gaagtaccct gaaaatagga aattgctatt aaaatataaa 12960 gcattattat atgagcagtg tataatgtgt tggcaaattg cttttgattt gaactaatgt 13020 ggcttccctg atagcaggag tggagaatac taaatagtgg gaagcatctg aaattgatgg 13080 gctaagggtg caattattta aaacaagcag ccgtattttc aatgggagaa ctctatagga 13140 aacaggtcct taattcttcc cttgatttgt cttctttgtg tgtgtgaatt gcctgcaatt 13200 tagttcttta aagaaatgct gtatcacctt gtcagatgaa aagaaaagag cagttatttg 13260 ttgtctttgt ggattttatt catgtttaaa gattttaata aaatccattt tagacagtac 13320 cattatctag ctgaaaaata tgagagacag taatttttaa cggggactgt ggttaaggtt 13380 ggagtcttaa tcaccccatt acctttaaaa atctattctt gctggtgatt tttctacaat 13440 aaagaagact ttaaaaataa gataatatca gactctatat tcataggtag gtatttaatt 13500 caatgaatct ggagcatgtg ctgaccatgg tgtaaattat agtttaagta ccagaaaaag 13560 aaaactgaga ccctaattgg ctttttttga gcttgaggga caaaattcat ctggcagaga 13620 gagtgaaagt acaagtttgt gagtaacagg agttgggtaa gtaacacata ggaaggtgtc 13680 caggcagaat tcacaggagc tggcagtggc ctgaagctct cagagcacac ttttggaggt 13740 gaacaagggc tttgaaggat ggatggtgtt gagattatca actcccaagt gaatttttct 13800 tttttttttt tagatgaagt ctcgctctgt tgcccaggct ggagtgcagt ggcgcgatct 13860 eggeacactg caagetetge etteegggtt caegecatte teetgeetea geeteeegag 13920

tagetgggae taeaggtgee egeeaceaeg eeeggetaat tittigtata titagtaaag 13980 acggggtttc accatgttag ccaggatggt ctcgatctcc tgacctcgtg atccacccac 14040 ctcagcctcc caaccaagtg aattttttac ttgtgtcctt ttcagtgctg tcctgtgttc 14100 tgttatcata atttgcaatg atccggcttt agttataacc agtgtctgat aagaattaga 14160 tatttatctt atagtaacag tgtgatacag ttttttttaa gcacttgtct gtatttgtaa 14220 caactatgga aggaaaacaa accttgcatg atctgtgttt tccagatgag gagatggagg 14280 ctatattagc ttagatgact tttacctaca tgtacaaaac aggtggggcg ggggacacaq 14340 gcagaataat qtacaqttca qqtaacacaq qqaatttatt atqtqqatac cactqtqtac 14400 ttttcactgt qqaqaqqaqt tcaattctaa aatqatcaaa attttaqqat tttaaaqaat 14460 tgggccgggc atggtacctc acgcctgtaa ttccagcact ttgagaggcc aaggcgggtg 14520 gatcacctga ggtcaggagt ttgagaccag cctggccaac atgatgaaac cccatctcta 14580 ttaaaaatac aaaaattagc cgggcgtggt ggtgcatgcc tgtaatccca gctacttggg 14640 agggtggggc aggagaaatg cttgaacctg ggaagcaaag gttgcagtga gctgagatcg 14700 tgccactgca ctccagcctg ggcaacagag tgagactcca cctcaaaaca aaaataaagg 14760 attgaaggtg gtaatttgaa agtacaaatg aggaggggcc cctgggtatc tctacgttgg 14820 aatgtttata tcataaatat ttattgtgag tgatggtcct tttatattgg atctgaattg 14880 tccatttagt cctttaaaat tggaagatgg catgaacagg gcaagagtat aataaactat 14940 gctgataaat gaaatcgttc taattcattt attcatttat acacccaaat aacattcttt 15000 cattgcatat ctattatgtg ccagacatgc attactaaaa aagatttccc actcaagaaa 15060 ttacctaatg gaggagacaa tagatattac acttataaca agtagttctg atttgcaatg 15120 aggagttttt cagtagagtc acgtagaaag ggttttgaga gcacagagga gaaaacagtc 15180 aattetgttt gggggettee taggagtetg aagggagag agagttttge tggetgagaa 15240 cctcactctc accagaggaa aaggtaagca ggtgcagact aggagggatg ttctgtgtct 15300 taccagaaga ccaagcattt cctgtaggtt gtaggaagcc actaggcatt tttaaataga 15360 gactgatttg acttttgtgt atggtaataa ctttgttttc ctcccccaaa atcacttttt 15420 aaaacagcca gcagaaggag cgactgactt gcttagggag gactttcatg gagctgggca 15480 gggcatattt gtctccctgt ctcatactga ggcaccatca gcagactgga tagttgggag 15540 aaacaaagag gcttctacct caggggtccc agaatgtgaa tttcattggc aagttcaagt 15600 gaaaacagtg taggaactga catggccttt ccaggatttt agtctgccaa gacacagccc 15660 ttaaatacaa atgaactgcc aaacaggttc attgtcccct gtcaccctcc attctttcat 15720 agaggaatgc ggacagcagg accaaaaaga tgtgatgaca gaggggaggc cacactaaat 15780 ggtagtttga gatgggtcaa tggagctgtg tgaagaacac actgcattat tactgttqtc 15840 aattttattt tttaaacaat attgtataac tttttttagt ttataaaatt taattttatt 15900 taacttatgc aatactagaa aaacttctgt agagccaacc ctggtttcat cattcctggc 15960 tgctgatttt cagatgctac tttgacttct tctgcagaca gagaactcac taccccattc 16020 cttctcaggt actggcacag cacggccacc tatgccatag ccactgaggt gagtggggt 16080 ctccagcacc tgcccccagc ccatcaccct gtgtaccagt ggccagagga cctgctcaaa 16140 cctgacctta tcctgctgct cactgtgagt cctgaggaga ggttgcagag gctgcagggc 16200 cggggcatgg agaagaccag ggaagaagca gaacttgagg ccaacagtgt gtttcgtcaa 16260 aagtaggtgt cccagtgcaa tgcaatgtga gcggcaggca ttcctgaagg gagatgaacc 16320 actggcactg gctttaggat tgtgaggaag tgatattgtt tccagttttc aaacacaaga 16380 gacaacatcc tctaagttac ttcagcccct tccaatgggc ttgtcaccac agggctgcag 16440 cattgttatc ttaaagcaaa ggtcatcgga ctagggatca gaccctgcca ctgatcctgg 16500 ctgtgctagg agcagctgca cctgggtaag acagtaagtg tctctgtgcc tcagtttccc 16560 cagtcatagt ataatcacac agagcactag ataacgagct catagtaaca tctacctatt 16620 agatgettee egtgtgteag geattttaet gatgttatgt cateettgtg aggaaaacat 16680 tagccgtatt ttacagttta caactttaag gctcaaagga ttaagtgatt tgtctaaatg 16740 tacataacta ttcactagta aaaccgggat taaaatcttt ctgattttgc agccagtgtt 16800 tttgttttaa ttagaaagtt ataaacacga ctgcagaaga gagtctggcc aggcctcctg 16860 cctcatgact gagtatgaat cagttctaca ccactgcctt taaaaactga agcagaaata 16920 ttttctctaa ctgaacaatg atagccctgt tatcataaca tagtaatgtt ataaataatg 16980 gtagctgctg tgggtaaaga tattatgtta agcaatttac ttgtattaat tccattaaac 17040 ttcagtgaac atttgcaagg aaggtacggt ttcagtcttc attttgcaga acaggaaact 17100 gagacacaga gaggagaaga gatttgacca attcacttgg ctaggaagtg gtcaggcaga 17160 gttgtgaatg cagacgatcc acctcgacac ccctatttta accacagtgc tataaggatt 17220 ccataaagaa acaggcacta gtcactctgt atacacatga aggctagcta gcatggaaag 17280 gatatgtaga tttctggcaa aatattagaa gagtcccatg catatattaa ggactgtggc 17340 ttgtatgaaa attattcagg gcacagactt gggggaaatt tgccactgaa caaattacct 17400 aaattctttg agcttcagtt gccttctctg caaaacaggg atgacaatag tcttccctcc 17460 taaggttact ttgagaatta aatgagaaaa atcatgcaaa atgctaatgc ttggcagaaa 17520 acaggtattc aacaagtgct agctattaaa cattattatt catttattat ttgttaaaca 17580 aaatgcatga acgtcttctg tgggcaaagc tagttacagt gagataaatg acatgggaag 17640 cttgcttcaa gctatttata ctatggtagg aaaagaacat taatgcaaat agctgtgtga 17700

```
aaaaqtaqac caactctttq tqttttgcct gtccccaggg tagaaatgtc ctaccagcgg
                                                                  17760
atggagaatc ctggctgcca tgtggttgat gccagcccct ccagagaaaa ggtcctgcag
                                                                  17820
acggtattaa gcctaatcca gaatagtttt agtgaaccgt agttactctg gccaggtgcc
                                                                  17880
acgtctaact agattagatg ttgtttgaaa catctacatc caccatttgt tatgcagtgt
                                                                  17940
tcccaaattt ctgttctaca agcatgttgt gtggcagaaa actggagacc aggcatctta
                                                                  18000
attttacttc agccatcqta ccctctttct qactgatgga cccqtcatca caaaqqtccc
                                                                  18060
tctcatcatg ttccagtgag aggccagcga ttgctttctt cctggcatag taaacatttt
                                                                  18120
cttqqaacat atqtttcact taatcactac caaatatctq qaaqacctqt cttactcaqa
                                                                  18180
cagcaccagg tqtacaqaaq caqcaqacaa qatcttccaq atcaqcaqqq aqaccccqqa
                                                                  18240
gcetetgett etectacaet ggeatgetga tgagategtg acatgeecae attggettet
                                                                  18300
tccacatctg gttgcactcg tcatgatggg ctcgctgcat ctccctcagt cccaaattct
                                                                  18360
agagecaagt gtteetgeag aggetgteta tgtgteetgg etgeecaagg acaeteetge
                                                                  18420
agagccattt ttgggtaagg aacacttaca aagaaggcat tgatcttgtg tctgaggctc
                                                                  18480
agagecettt tgataggett etgagteata tataaagaca tteaageeaa gatgeteeaa
                                                                  18540
ctgcaaatat accaaccttc tctqaattat attttqctta tttatatttc ttttcttttt
                                                                  18600
18660
agccaatcca gtaatttatt tatattaatc tatacataat atgtttcctc agcataggag
                                                                  18720
ctatgattca ttaattaaaa gtggagtcaa aacgctaaat gcaatgtttg ttgtgtattt
                                                                  18780
tcattacaca aacttaattt gtcttgttaa ataagtacag tggatcttgg agtgggattt
                                                                  18840
cttggtaaat tatcttgcac ttgaatgtct catgattaca tatgaaatcg ctttgacata
                                                                  18900
tctttagaca qaaaaaaqta qctqaqtqaq qqqqaaatta taqaqctqtq tqactttaqq
                                                                  18960
gagtaggttg aaccaggtga ttacctaaaa ttccttccag ttcaaaggca gataaatctg
                                                                  19020
taaattattt tatcctatct accatttctt aagaagacat tactccaaaa taattaaatt
                                                                  19080
taaggcttta tcaggtctgc atatagaatc ttaaattcta ataaagtttc atgttaatgt
                                                                  19140
cataggattt ttaaaagagc tataggtaat ttctgtataa tatgtgtata ttaaaatgta
                                                                  19200
attgatttca gttgaaagta ttttaaagct gataaatagc attagggttc tttgcaatgt
                                                                  19260
ggtatctagc tgtattattq qttttattta ctttaaacat tttqaaaaqc ttatactqqc
                                                                  19320
agcctagaaa aacaaacaat taatgtatct ttatgtccct ggcacatgaa taaactttgc
                                                                  19380
tgtggtttac taatctatgc tgtcatcctg ggtacatatt gatttgtctg aaaagtgctt
                                                                  19440
tctcagattc cccttttaat attgtgatgt aaaggaggga aattttggta aaggaagttg
                                                                  19500
aaaggtgtga gctggcaggc taagtggaat ttgtggtcag agtgctttca gagaaagggg
                                                                  19560
agggctattg ttttatttta catatcattt cctcattaca aatattaaag acattttgta
                                                                  19620
attcattctt tttacacctq qactttttat atactqataq qtatatatqa cttacqaqta
                                                                  19680
ttttgtaaaa tagcacctcc taccctaaaa ctgatggcaa gtaacccttt gcttggctct
                                                                  19740
gctcattgca agacgagctt tggttttgtt cctgtgatag accattagtt accccaaaat
                                                                  19800
ttattcttcc tttcttccat ggtaatgtaa tatttagctt ggtacatggg tgccaataat
                                                                  19860
tcctagtgca tttccaaggc tcccttaaca gctggaggtg ggcgactggc tagtttcttg
                                                                  19920
ccaatagtat gtgagcagaa ggaatacctg aaatgtcaag gggatattat cactttcccc
                                                                  19980
tttaactctt catatcgqct qtattcaqaq qtqataqcca tctaaqqacc aaqaqatqaq
                                                                  20040
20100
gccctcggcc caccagtcag tgcctcaccc cacataatgt aaaaagcagc ctggggaaaa
                                                                  20160
aatcaagctg caggcactga taagggaact agcacagggt gttgtgcctg gagacatgcc
                                                                  20220
tacggctgca cagataggag agcctctggc ccattcagat aaaagcttgc acaaacctct
                                                                  20280
ggctcactca gatqaqqqaa caaqtcctqq cataaaaaaca cctttqtcct ttqtataqtc
                                                                  20340
agcaggetee caggaaaaag tttttttete ettttgtggg egtgggeaca gtgggeteea
                                                                  20400
gttagttcca gtgggcactt tccttgccag tttttggact gtgagtctgg cctctgtgaa
                                                                  20460
teataactte ageceetgat tggteecagg caaaggteet aggeeagget ttetgattgg
                                                                  20520
tcctgggcca gggtgcctgg ccaagctgag tcatgccttc tccaagacag ccggtagact
                                                                  20580
aagcacattc attccccttt ccagcccgta aaacccccac aactggcctc atagtgggca
                                                                  20640
ccccattaga gctccccctt ctqctqqcaq aqaqctttct tttttcqctt attaaaqttt
                                                                  20700
cactccaact tcacccttgt tgtctgcact ccttaatctt cttggaatta ggacaaagaa
                                                                  20760
ctctggatat tatctcagac aacgggagac tgttacatct tggtgcattg gtaagattac
                                                                  20820
aacacatttt ggtgcattgg ctgggaagaa gggaattcat cagaaggatg attaagagtt
                                                                  20880
gacctttaac tttcaccttt acttgcattt ctgaggcttc ttgtctattc cagtctagtt
                                                                  20940
tgctttcaca gagggcctag ccatca
                                                                  20966
<210> 4
```

<210> 4 <211> 508 <212> PRT <213> Homo sapiens

<400> 4

. . `

Glu Cys Thr Ser Phe Ile Pro Glu Ala Arg Ala Val Leu Asp Leu Val

Asp Gln Cys Pro Lys Gln Ile Gln Lys Gly Lys Phe Gln Val Val Ala Ile Glu Gly Leu Asp Ala Thr Gly Lys Thr Thr Val Thr Gln Ser Val Ala Asp Ser Leu Lys Ala Val Leu Leu Lys Ser Pro Cys Thr Ser Phe Ile Pro Glu Ala Arg Ala Val Leu Asp Leu Val Asp Gln Cys Pro Lys Gln Lys Gly Lys Phe Gln Val Ala Ile Glu Gly Leu Asp Ala Thr Gly Lys Thr Thr Gln Gln Cys Thr Ser Phe Ile Pro Glu Ala Arg Ala Val Leu Asp Leu Val Asp Gln Cys Pro Lys Glu Val Gln Lys Gly Lys Phe Gln Val Ile Ala Ile Glu Gly Leu Asp Ala Thr Gly Lys Thr Thr Leu Thr Gln His Phe Lys Ser Leu Ser Arg Leu Ser Ser Tyr Ser Arg His Pro Ser Cys Ile Gly Gln Trp Arg Lys Ile Phe Asp Asp Glu Pro Thr Ile Ile Arg Arg Ala Phe Tyr Ser Leu Gly Asn Tyr Ile Val Ala Ser Glu Ile Ala Lys Glu Ser Ala Lys Ser Pro Val Ile Val Asp Arg Tyr Trp His Ser Thr Ala Thr Tyr Pro Cys Ile Lys Phe Asn Tyr Val Ala Ser Glu Ile Ala Lys Glu Ser Pro Val Ile Val Asp Arg Tyr Trp His Ser Thr Ala Thr Tyr Pro Pro Cys Ile Lys Pro Val Glu Glu Asp Leu Leu Met Met Asn Leu Leu Ser Phe Glu Glu Pro Phe Ile Leu Trp Ala Asn Tyr Leu Val Ala Ser Glu Ile Ala Lys Glu Ser Thr Asn Phe Pro Val Ile Val Asp Arg Tyr Trp His Ser Thr Ala Thr Tyr Ala Ile Ala Thr Glu Val Ser Gly Gly Leu Gln His Leu Pro Pro Ala His His Pro Val Tyr Gln Trp Pro Glu Asp Leu Leu Lys Pro Asp Leu Ile Leu Leu Leu Thr Val Ser Pro Glu Glu Arg Leu Gln Arg Leu Gln Gly Arg Gly Met Glu Lys Thr Arg Glu Glu Ala Glu Ala Ile Ala Thr Glu Val Ser Gly Gly Leu Gln Leu Pro Pro Ala His His Pro Val Tyr Gln Trp Pro Asp Leu Leu Lys Pro Asp Leu Leu Leu Thr Val Glu Glu Arg Arg Leu Gln Gly Arg Gly Glu Lys Thr Glu Glu Ala Glu Ala Ile Ala Thr Glu Val Ser Gly Gly Leu Gln Tyr Leu Pro Pro Ala His His Pro Val Tyr Gln Trp Pro Gly Asp Leu Leu Lys Pro Asp Leu Val Leu Leu Leu Thr Val Asn Ser Glu Glu Arg Val Arg Arg Leu Gln Gly Arg Gly Gln Glu Lys Thr Lys Glu Glu Ala Glu Leu Glu Ala Asn Ser Val Phe Arg Gln Lys Val Glu Leu Glu Ala Asn Val Phe Arg Gln Lys Val Glu Leu Glu Ala Asn Asn Val Phe Arg Gln Lys Val Glu 505 1

** *